



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,903	03/30/2004	Tetsuya Utsumi	5000-5157	7614
27123	7590	03/29/2006	EXAMINER	
MORGAN & FINNEGAN, L.L.P.			MONDT, JOHANNES P	
3 WORLD FINANCIAL CENTER			ART UNIT	PAPER NUMBER
NEW YORK, NY 10281-2101				3663

DATE MAILED: 03/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/814,903	UTSUMI ET AL.	
	Examiner	Art Unit	
	Johannes P. Mondt	3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 18 January 2006.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-16 is/are pending in the application.
 - 4a) Of the above claim(s) 12-14 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-11, 15 and 16 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____

DETAILED ACTION

Response to Amendment

Amendment filed 1/18/06 forms the basis for this office action. In said Amendment applicant substantially amended all claims through substantial amendment of independent claims 1 and 10. Applicant also added new claims 15-16. Comments on Remarks submitted with said Amendment are included below under "Response to Arguments".

Information Disclosure Statement

For the record examiner states that an interview with Attorney of Record, S. Meier, on 3/27/06 revealed that no supplemental Information Disclosure Statement was sent during July 2005, counter to the implication of the information on the official USPTO record ("PALM") showing an IDS filed 7/11/05, while no such supplemental information disclosure statement can be found to date in the electronic (IFW) file at the USPTO. The only Information Disclosure Statement considered to date was filed 3/30/04 and has been considered and acknowledged (see previous action mailed 8/18/05).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. **Claims 1-6 and 10-11** are rejected under 35 U.S.C. 102(b) as being anticipated by Lear (5,633,527).

Lear teaches an area light-emitting device (for instance RCLED or VCSEL; see col. 13, l. 5- col. 17, l. 50) capable of being used with an optical member (a lens 14 (col. 14, l. 57 – col. 15, l. 2, and Figure 6), the area light emitting device comprising:

 a transparent or translucent substrate 28 (col. 15, l. 3-17) (N.B.: substrate 28 must be transparent or translucent because at least one embodiment has light exiting upward (col. 16, l. 29-34)); and

 an area light emitting element 42 (col. 14, l. 6-42) arranged directly on and supported by the substrate (see Figure 6); wherein:

 the substrate includes a first surface (i.e., interface between 42 and 28; see Figure 6) facing the area light-emitting element and a second surface (upper main surface of the uppermost of 28 (see Figure 6) facing away from the light-emitting element;

 the area light-emitting element emits light that enters the first surface and exits from the second surface (col. 16, l. 29-34) (see Figure 6);

 the second surface includes a recess (Figure 6) for accommodating the optical member 14 (col. 13, l. 25-33) in which the optical member changes the characteristics of light emitted from the area light-emitting element (inherent to a lens because a lens changes the direction of said light; see also Figure 6, wherein the light rays are indicated).

On claim 2: the recess is positioned substantially at the center of the second surface (see Figure 6).

On claim 3: the recess is defined by a bottom surface and side surfaces surrounding the entire periphery of the bottom surface (Figure 6).

On claim 4: the recess accommodates completely the entire optical member (14 being entirely within said recess, see Figure 6).

On claims 5-6: the recess has a depth (thickness of 28), and the optical member has a thickness (thickness of portion of 28 with curved interface), the depth of said recess being greater than the thickness of the optical member because of the vertically walled portion of said recess; (see Figure 6), although being substantially the same (see Figure 6).

On claim 10: Lear teaches an optical device (for instance RCLED or VCSEL; see col. 13, l. 5- col. 17, l. 50) comprising:

an optical member (unitary lens 14; see col. 14, l. 57 – col. 15, l. 2 and Figure 6); and

an area light emitting device 10 (col. 13, l. 25-30) including a transparent or translucent substrate 28 (col. 15, l. 3-17) (N.B.: substrate 28 must be transparent or translucent because at least one embodiment has light exiting upward (col. 16, l. 29-34)) (see Figure 6); wherein:

the substrate includes a first surface (i.e., interface between 42 and 28; see Figure 6) facing the area light-emitting element and a second surface (upper

main surface of the uppermost of 28 (see Figure 6) facing away from the light-emitting element;

the area light-emitting element emits light that enters the first surface and exits from the second surface (col. 16, l. 29-34) (see Figure 6);

the second surface includes a recess (Figure 6) for accommodating the optical member 14 (col. 13, l. 25-33) in which the optical member changes the characteristics of light emitted from the area light-emitting element (inherent to a lens because a lens changes the direction of said light; see also Figure 6, wherein the light rays are indicated).

On claim 11: the recess accommodates completely the entire optical member (14 being entirely within said recess, see Figure 6).

2. **Claims 1, 2, 9, 10, 15 and 16** are rejected under 35 U.S.C. 102(b) as being anticipated by Shirasaki et al (JP 2000231105 A).

On claim 1: Shirasaki et al teach an area light emitting device capable of being used with optical member, the area light emitting device comprising: a transparent or translucent substrate 20/30/412/411/410 (see Figure 1 and English abstract; see [0029] in the computerized translation for evidence that said substrate is transparent or translucent: otherwise light could never penetrate polarization plate 50, the only source of light being the organic EL element 10, see below; and see [0028] for elements 410, 411, and 412); and an area light emitting element 10 (see Figure 1 and English abstract) arranged directly on and supported by the substrate (see Figure 1), wherein the substrate includes a first surface facing the area light emitting element (face of 20

abutting 10; see Figure 1) and a second surface facing away from the area light emitting element (upper face of 410; see Figure 1); the area light emitting element emits light that enters the first surface and exits the second surface (namely the light penetrating 50 (see also Figures 4 and 5); and the second surface includes a recess (centrally placed recess in the upper main surface of 410 in Figure 1) for accommodating the optical member, liquid crystal panel 407 (see computerized translation, paragraph [0026]) in which the optical member changes the characteristics of light emitted by the area light emitting element 10 (by the very function of a liquid crystal display panel).

On claim 2: the recess is positioned substantially at the center of the second surface (see Figure 1).

On claim 9: the area light emitting element by Shirasaki et al is an organic electroluminescence element 10 (see English abstract, final sentence).

On claim 10: Shirasaki et al teach an optical device (liquid crystal display device; see title) comprising: an optical member 407 (liquid crystal panel; see computerized translation, paragraph [0026]); and an area light emitting device 10/20/30/412/411/410 including a transparent or translucent substrate 20/30/412/411/410 (see English abstract for retardation plate 20, polarizing plate 30, organic EL element 10 and see [0028] in the computerized translation for elements 410, 411 and 412; see [0029] in the computerized translation for evidence that said substrate is transparent or translucent: otherwise light could never penetrate polarization plate 50, the only source of light being the organic EL element 10, see below), and an area light emitting element, organic EL element 10 (see English abstract) arranged directly on and supported by the substrate

(see Figure 1); wherein the substrate includes a first surface facing the area light emitting element (face of 20 abutting 10; see Figure 1) and a second surface facing away from the area light emitting element (upper face of 410; see Figure 1); the area light emitting element emits light that enters the first surface and exits the second surface (namely the light penetrating 50 (see also Figures 4 and 5); and the second surface includes a recess (centrally placed recess in the upper main surface of 410 in Figure 1) for accommodating the optical member, liquid crystal panel 407 (see computerized translation, paragraph [0026]) in which the optical member changes the characteristics of light emitted by the area light emitting element 10 (by the very function of a liquid crystal display panel).

On claim 15: the area light emitting device is an electroluminescence device (organic electroluminescence (EL) device 10; see English abstract) and the optical member is a liquid crystal panel 407 (see paragraph [0026] of the computerized translation).

On claim 16: the optical device is a liquid crystal device (see title and English abstract), the optical member is a liquid crystal panel 407, and the area light emitting device is an electroluminescence device 10 (see English abstract).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. **Claims 7-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lear as applied to claim 1, in view of either Gombert et al (6,359,735 B1), or, in the alternative, in view of Aoki et al (cited previously). As detailed over Lear anticipates claim 1. Lear does not necessarily teach the further limitations as defined by claims 7-8. However, it would have been obvious to include said further limitations because said bottom surface of the recess functions as a lens, for which it must be antireflective, which, as witnessed by *Gombert et al*, is achieved by providing microstructure on the surface with a typical structure depth of more than 0.1 μm (see title, abstract and col. 2, I. 40 – col. 3, 52). It would have been obvious to include the teaching by Gombert et al in the invention by Lear because Gombert made his invention in order to provide an antireflective coating on transparent material including displays so as to prevent reflection, while it is obvious that reflection is detrimental to lens 14 in Lear as for any lens. *Motivation* immediately flows from the increase in yield due to a decrease in reflection.

Furthermore, it would also have been obvious to include said further limitation in view of *Aoki et al*, who, in a patent publication a liquid crystal display ([0001]) (hence analogous art) teach that black matrix sections can be made to reflect light less by positioning said BM sections in recesses of the transparent substrate wherein the bottom surface of the recess is a rough surface (see English abstract and Drawing 1). *Motivation* to include the teaching by Aoki et al derives from the resulting improvement by strongly reducing reflected light from the black matrix sections, thus improving the functionality of said black matrix sections as light absorbers. The surface roughness as

taught by Aoki et al is in the range of 0.03 – 2 μm . This range overlaps considerably with the range as claimed.

Applicant is reminded with regard to the ranges taught for surface roughness by both Gombert et al and Aoki et al that it has been held that a *prima facie* case of obviousness typically exists when the ranges of a claimed composition overlap the ranges disclosed in the prior art or when the ranges of a claimed composition do not overlap but are close enough such that one skilled in the art would have expected them to have the same properties. *In re Peterson*, 65 USPQ2d 1379 (CA FC 2003).

Response to Arguments

Applicant's arguments filed 1/18/06 have been fully considered but they are not persuasive. Although the rejections over Yanagawa and over Matsumoto made in the previous office action have been overcome by amendment the reason for this is only the non-transparent nature of the rubber portion GC of spacer SPC in Yanagawa which does not meet the newly added claim limitation "directly on" in "directly on and supported by" (claims 1 and 10 and claims dependent thereon); similarly backlight source and substrate do not necessarily abut in Matsumoto et al, as there may be space in between said backlight and said substrate.

However, the presently amended claims as well as the new claims must be rejected over Lear (5,633,527) and Shirasaki et al (JP 2000231105 A), as shown overleaf.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johannes P. Mondt whose telephone number is 571-272-1919. The examiner can normally be reached on 8:00 - 18:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack W. Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM
March 26, 2006



JACK KEITH
SUPERVISORY PATENT EXAMINER